



Evans Cooling Systems, Inc.
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Suffield, CT 06078
888-990-2665

INSTALLATION PROCEDURE – MACK E7

CAUTIONARY NOTE: DO NOT FLUSH COOLING SYSTEM WITH WATER!

A. Supplies, information, and special tools needed:

1. If the engine is equipped with a coolant filter, obtain a non-chemical coolant filter (OEM or aftermarket).
2. Enough Evans waterless Heavy Duty Coolant (“HDC”). 12 gallons is sufficient for the equipment as listed above.
3. One gallon of Evans Prep Fluid.
4. A high-volume air source, such as Makita blower Model UB, or a shop vac.
5. Funnel.
6. Evans provided labels to warn against the addition of water.

B. The installation:

1. Inspect the cooling system for leaks. If there is a leak, do not proceed with the installation until the leak is repaired.
2. Place collection containers at appropriate locations.
3. Remove the pressure cap on the expansion tank.
4. Open petcock at lower radiator hose. Once draining is complete, pull off the bottom radiator hose.
5. Open the block and compressor drains.



The block and compressor drains look like this

6. Blow out the cab heater as follows:

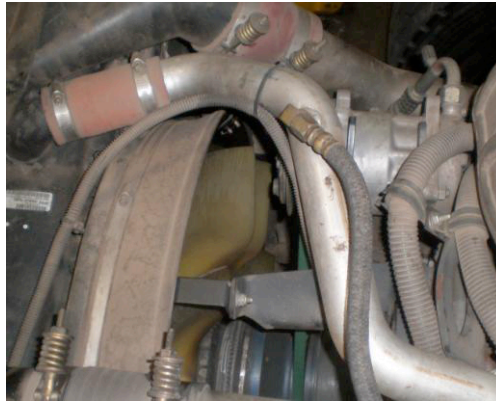
- a. Remove the “source” hose from the heater.
- b. Set heater and blower on high.
- c. Turn on ignition key.
- d. Blow air into the heater from the source side.
- e. Pour about a third of a gallon of Prep Fluid and blow it through the heater.
- f. Turn off the key.
- g. Don’t re-connect the source hose yet.

7. If there are other coolant circuits external to the engine, blow them out (from the source side) and chase with Prep Fluid.

8. Blow air into the expansion tank. Replace the expansion tank cap.

9. If the engine is equipped with a coolant filter, remove the filter and discard. (To be replaced later with a non-chemical filter.)

10. Procedure for draining and blowing through radiator and cylinder head jacket:



Vent line in top radiator hose

- a. Remove the vent line where it attaches to the top radiator hose.
- b. Temporarily, re-attach the bottom radiator hose (loosely) and close the radiator drain petcock.
- c. Blow air into the top radiator hose through the vent fitting.
- d. Blow air into the vent hose.
- e. Using about one third to one half gallon of Prep Fluid, chase both the vent fitting and the vent hose. (Save the remaining flush for step j.)
- f. Pull off the bottom radiator hose.
- g. Blow air into the top radiator hose through the vent fitting.
- h. Re-attach the vent hose to the top radiator hose.
- i. Continuing – go to the heater source connection at the cylinder head jacket.
- j. Blow air into the cylinder head jacket, through the heater hose connection. Chase with the remaining Prep Fluid.

11. If the engine is equipped for a coolant filter, install the non-chemical filter now.

12. Re-connect the source heater hose and the bottom radiator hose.

13. Close all drains. Make sure all connections are tight.

14. Fill the radiator with Evans HDC. Any remaining prep Fluid is compatible with Evans HD Coolant.
15. Apply warning stickers to the expansion tank to prevent the use of water or water-based coolants.

C. Road Test

1. Drive the truck so as to heat up the cooling system, open the thermostats, and normal operating temperature.
2. Assuming the engine is now warm, add Evans HDC to the expansion tank until it is about 3/4 full. Use care when removing the cap but the only pressure comes from expanded liquid, not from steam.

D. The Next Day

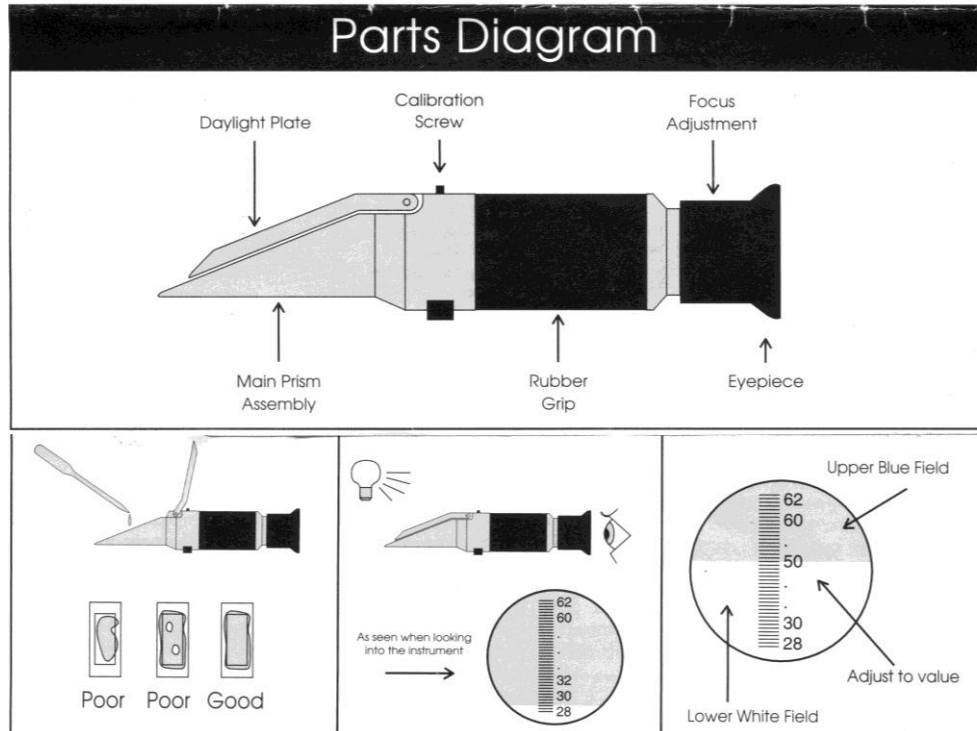
1. Add Evans HDC as necessary to bring the level in the expansion tank to the cold level. Monitor the cold level for several days and add small amounts if needed but don't exceed 1/3 full (cold).
2. Check the water content of the coolant using the Evans Refractometer P/N E2190. See next page for use instructions. The water content should be 3% or less.

Evans Refractometer Part# E2190 **for Reading Water Content of Waterless Coolant**

VER 10Aug11

Hand Held Brix Refractometer

Range: 28-62°
 Minimum Division: 0.2°
 Dimensions: 27 x 40 160mm
 Weight: 176 grams



Readings are temperature sensitive, so calibrate before use:

Calibrate the refractometer by placing a drop of **new** Evans Waterless Heavy Duty Coolant on the refractometer glass. Use the small screwdriver supplied with the instrument and set the reading to 57.0. Always clean the glass and the daylight plate with a clean, soft cloth between readings.

Place a small amount of coolant, obtained from a location in the cooling system where the coolant is well-mixed, on the glass and close the daylight plate.

| <u>°Brix</u> | <u>% water</u> |
|--------------|----------------|
| 57.0 | 0.0 |
| 56.5 | 1.0 |
| 56.1 | 2.0 |
| 55.7 | 3.0 |
| 55.2 | 4.0 |
| 54.8 | 5.0 |
| 54.3 | 6.0 |
| 53.9 | 7.0 |